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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,327	02/06/2004	Ankan Pramanick	333772000900	4514
20872	7590	10/03/2005	EXAMINER	
MORRISON & FOERSTER LLP 425 MARKET STREET SAN FRANCISCO, CA 94105-2482			KUNDU, SUJOY K	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/772,327	Applicant(s) PRAMANICK ET AL.	
	Examiner Sujoy K. Kundu	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/14/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/07/04;09/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Arkin et al. (6,028,439).

With regards to claim 1, Arkin teaches a distributed operating system for a semiconductor test system for testing at least one device under test (DUT), the operating system comprising:

A host operating system (Fig. 1, 16) for enabling control of at least one site controller by a system controller (Column 5, Lines 26-30 and Column 7, Lines 31-42); and

At least one local operating system (Fig. 2, 38A) associated with each site controller (Fig. 2, 30) for enabling control of at least one test module (Fig. 1, 14) by an associated site controller (Column 7, Lines 31-42),

Wherein at least one test module (Fig. 1, 14) performs testing on a corresponding DUT (Column 7, Lines 31-42).

With regards to claim 2, Arkin teaches a distributed operating system wherein the host operating system synchronizes operation of the at least one site controller (column 6, lines 31-38).

Art Unit: 2863

With regards to claim 3, Arkin teaches a distributed operating system wherein the host operating system arbitrates communication between the system controller and the at least one site controller (Column 7, Lines 31-42).

With regards to claim 4 & 5, Arkin teaches a distributed operating system wherein the host operating system monitors operation of the at least one test module associated with a site controller (Column 7, Lines 43-61).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arkin (6,028,439) as in view of Adler (US 2002/0183955 A1).

With regards to claims 6-8, 24 Arkin teaches all the limitation above, however Arkin does not teach a distributed operating system further comprising a test module interface for defining test module functions for interfacing a site controller to a first test module, wherein the test module interface is extensible to interface the site controller to a second test module, the unextended test module interface being insufficient for interfacing the site controller to the second test module.

However Adler, teaches a distributed operating system further comprising a test module interface (Fig. 1, 44) for defining test module functions for interfacing a site controller (Fig. 1 45, "driver module") to a first test module, wherein the test module

Art Unit: 2863

interface is extensible to interface the site controller (Fig.1 34, 36, Page 3, Paragraph 29) to a second test module, the unextended test module interface being insufficient for interfacing the site controller to the second test module (Page 3, Paragraph 31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a test module interface for defining test module functions for interfacing a site controller to a first test module, wherein the test module interface is extensible to interface the site controller to a second test module, the unextended test module interface being insufficient for interfacing the site controller to the second test module as taught by Adler into Arkin for the purpose of providing a practical limit to the number of tester boards that the host can reprogram within a reasonable time between tests (Arkin, Column 2, Lines 53-55).

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arkin and Adler as applied to claims 6-8 above, and further in view of Hejlsberg et al.(US 2003/0167277 A1).

Regarding claims 9-14, 19 Arkin, teaches all the limitations as discussed above, however Arkin as modified does not teach a distributed operating system wherein the at least one host framework class is developed in a standard computer language to enable a user to develop application specific classes for controlling the at least one site controller. Hejlsberg discloses a distributed operating system wherein the at least one host framework (Paragraph 32, 132) class is developed in a standard computer language (Paragraph 26, 140, " C or C++") to enable a user to develop application specific classes for controlling the at least one site controller (Paragraph 26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a distributed operating system wherein the at least one host framework class is developed in a standard computer language to enable a user to develop application specific classes for controlling the at least one site controller as taught by Hejlsberg into Arkin and Adler for the purpose of maintainability.

With regards to claims 15, 17, and 18, Arkin teaches a distributed operating system wherein the number of modules controlled by the site controller is scalable (Column 7, Lines 24-29, "high-speed parallel bus").

With regards to claim 16, Arkin teaches a distributed operating system wherein associated with a corresponding site controller enables the type of test modules controlled by the site controller to be reconfigured (Column 7, Lines 13-23).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arkin, Adler, and Hejlsberg as applied to claims 9-14 and 19 above, and further in view of Shah (6,782,336).

Regarding claim 20, Arkin teaches all the limitations as discussed above, however Arkin as modified does not teach a distributed operating system further comprising of an emulator for simulating the usage of a candidate test module with the test system to verify the candidate module as compatible with the test system. Shah discloses a distributed operating system further comprising of an emulator (Fig. 2, 46) for simulating the usage of a candidate test module with the test system to verify the candidate module as compatible with the test system (Column 4, Lines 44-51).

Art Unit: 2863

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a distributed operating system further comprising of an emulator for simulating the usage of a candidate test module with the test system to verify the candidate module as compatible with the test system as taught by Shah into Arkin, Adler and Hejlsberg for the purpose of improving the debugging process of the system.

Regarding claim 21, Arkin teaches a distributed operating system wherein a first set of modules at a first test site is configured differently than a second set of modules at a second test site (Background of the Invention, Column 1, Lines 46, 53).

Regarding claim 22, Arkin teaches a distributed operating system wherein a first test site having a first configuration to test a first DUT, and a second test site having a second configuration to test a second DUT, wherein the first and second test sites are reconfigurable to form together a third test site to instead test a third DUT (Column 3, Lines 34-42).

Regarding claim 23, Arkin teaches a distributed operating system wherein a first module at a first test site can access a second module at a second test site (Column 3, Lines 13-34).

Response to Arguments

Applicant's arguments filed September 14, 2005 have been fully considered but they are not persuasive.

I. Applicant argues that there is not teaching of having the microcontroller running on different local operating system for each test module.

Examiner's position is that the applicant's argument of not teaching of having the microcontroller running on different local operating system for each test module is not recited or found in the claims.

However, Arkin teaches at least one local operating system (Fig. 2, 38A) associated with each site controller (Fig. 2, 30) for enabling control of at least one test module (Fig. 1, 14) by an associated site controller (Column 7, Lines 31-42).

II. Applicant further argues since the microcontroller being coupled to multiple test modules of different hardware implementations.

Examiner's position is that the applicant's argument of the microcontroller being coupled to multiple test modules of different hardware implementations is not recited or found in the claims.

However, Arkin teaches a distributed operating system wherein the host operating system monitors operation of the at least one test module associated with a site controller (Column 7, Lines 43-61).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 2863

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

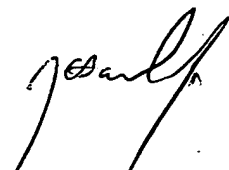
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujoy K. Kundu whose telephone number is 571-272-8586. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKK

09/28/05


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